

REMARKS

Reconsideration of this application is respectfully requested. Claim 1 has been amended to delete the word “sequentially.” Claims 1-34, 36-41, 43-50 and 55-73 are pending. Because claims 4-10, 19, 24-42, 44-50, 55-70, 72, and 73 have been withdrawn from consideration, only claims 1-3, 11-18, 20-23, 43, and 71 are at issue.

Summary of the July 3, 2008 Telephone Interview

Applicants gratefully thank the Examiner for the courtesies extended by the Examiner during the July 3rd telephonic interview during which the prior art rejections over Hyatt were discussed.

Written Description Rejection

All of the claims have been rejected for lack of written description. The Examiner contends that the specification does not disclose performing the claimed steps "sequentially" or a step involving mercerizing previously unmercerized cellulose pulp as claimed.

The word “sequentially” has been deleted from claim 1. Applicants, however, respectfully point out that the specification describes how the method can be performed sequentially by discussing each step and stating that the starting material for a step is the product of the preceding step. Additionally, the steps are performed sequentially in all the examples. *See*, for example, Example 1.

With respect to the recitation of mercerizing previously unmercerized cellulose pulp, the specification clearly states that the first mercerization in the method is performed on non-mercerized cellulose pulp. For example, the abstract to the application states:

The present inventors have discovered that the solution rheology of cellulose ethers prepared from cellulose pulp is altered by mercerizing and recovering cellulose pulp before preparing the cellulose ethers. For example, the solution viscosity of carboxymethyl cellulose (CMC) produced from mercerized and recovered cellulose pulp is significantly greater than that produced from **non-mercerized cellulose pulp**.

(emphasis added). The first paragraph of the Detailed Description of the Invention further states:

It has been surprisingly discovered that cellulose ethers prepared from previously mercerized and recovered cellulose pulp have significantly different solution rheologies than similar cellulose ethers prepared from **non-mercerized cellulose pulp**. For example, the viscosity of the cellulose ethers prepared may be controlled by varying the process parameters such as by varying the degree of mercerization. As a result, manufacturers can use the same type of cellulose pulp, e.g., southern softwood kraft (SSK), and processing equipment to yield cellulose ethers having a broader range of solution rheologies without changing types of cellulose pulp or processing equipment. For certain cellulose ethers, such as carboxymethyl cellulose, the use of mercerized and recovered cellulose pulp as a starting material significantly increases the solution viscosity of the cellulose ether. The increases in solution viscosity offer cellulose ether manufacturers (and end product users) the opportunity to compete with a broader range of synthetic and other natural water-soluble polymers, develop new applications for cellulose ethers, and improve current product performance.

(emphasis added). The specification, therefore, clearly conveys to one of ordinary skill in the art that the cellulose pulp is not mercerized before the first step of mercerizing and recovering the cellulose pulp.

For the foregoing reasons, applicants respectfully request withdrawal of this rejection.

Prior Art Rejections

Claims 1-3, 11-18, 20-23, and 71 have been rejected under 35 U.S.C. §102(e) as anticipated by Hyatt (U.S. Patent No. 6,057,438). Claim 43 has been rejected as obvious over Hyatt.

Hyatt discloses a process for upgrading paper-grade wood pulp to dissolving grade pulp which is suitable for use in the preparation of viscose rayon, cellulose ethers, and cellulose esters. The process involves a sequence of (i) caustic extraction, (ii) xylanase treatment and (iii) caustic extraction to remove most of the xylan. *See abstract.*

Claim 1 provides that the alkalation step (step (c)) is performed on the product obtained in step (b) (i.e., the mercerized and recovered pulp). Thus, claim 1 does not encompass processes in which the pulp is modified between steps (b) and (c). If the pulp is modified, the alkalation step would not be performed on the product “obtained in step (b).”

In Hyatt, a xylanase treatment is performed after mercerizing and recovering the cellulose pulp but before any derivatization of the cellulose pulp. Therefore, the derivatization step, which includes alkalation, is not performed on the product from the “mercerizing and recovering” steps. Accordingly, the Hyatt process does not anticipate the presently claimed method.

Furthermore, the purpose of the process, including the xylanase treatment step, is to remove xylan from the cellulose pulp. *See*, for example, col. 1, lines 6-19, of Hyatt. A skilled artisan would therefore not have any motivation to exclude the xylanase treatment step from the Hyatt process. Accordingly, the presently claimed process is not obvious over Hyatt.

In view of the foregoing, applicants respectfully request withdrawal of these rejections.

In view of the above amendment, applicant believes the pending application is in condition for allowance.

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Respectfully submitted,

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